



Overview

Region

Wisconsin, USA

Industry

Government

Customer Profile

The Wisconsin Department of Natural Resources is dedicated to the preservation, protection, effective management, and maintenance of Wisconsin's natural resources. Their agency is responsible for coordinating the many disciplines and programs necessary to provide a clean environment and a full range of outdoor recreational opportunities for Wisconsin citizens and visitors.

Business Situation

The Wisconsin DNR needed a durable, reliable jaw bucket to help them overcome costly downtime in their efforts to restore fragile trout stream habitat.

Solution

The Wisconsin DNR replaced their cylinder-style jaw bucket with Helac PowerGrip — a multi-purpose jaw bucket with enclosed rotary actuator hinge technology — which eliminated the service and maintenance issues they had been experiencing.

PowerGrip Application Success Story

Wisconsin Department of Natural Resources Employs PowerGrip to Restore Fragile Trout Stream Habitat

“PowerGrip has proven to be safer, more reliable and extremely durable.”

— Bill Ryan, Operations Team Supervisor, Wisconsin Department of Natural Resources

Nearly every equipment operator has found themselves operating in muddy, mucky conditions whether working on ditches, drainage fields, ponds or other waterlogged environments. Experienced operators know how these harsh conditions can cause wear and tear on their excavator's attachments, shortening the life of their equipment and resulting in costly downtime. For the Wisconsin Department of Natural Resources (Wisconsin DNR), Helac PowerGrip is just the tool to overcome these job site obstacles. PowerGrip, a versatile, durable multi-purpose bucket with enclosed rotary actuator hinge technology, consistently delivers outstanding performance without suffering the downtime and maintenance issues experienced with cylinder-style buckets.

A Safer, Reliable and Durable Alternative

Bill Ryan, Operations Team Supervisor at the Wisconsin DNR, has witnessed the durability and reliability of PowerGrip in the field. His skilled team restores miles of fragile trout stream habitat in Wisconsin which involves bringing back the natural features of the stream so critical to trout viability such as riffles, pools, meanders and woody debris. The habitat around the stream also must be restored often requiring difficult bank sloping and vegetation removal and replacement. Over a year ago, Wisconsin DNR replaced a cylinder-style jaw bucket on



“Due to Helac PowerGrip’s enclosed rotary actuator hinge mechanism, we haven’t had to do anything with PowerGrip except complete the tasks on hand.”

— Bill Ryan, Operations Team Supervisor, Wisconsin DNR

their CAT 320C with a PowerGrip to alleviate the service and maintenance issues they were previously having with the cylinder-style jaw bucket. They also found PowerGrip to be a



safer solution as there are fewer external moving parts that they need to contend with, resulting in greater productivity. “We replaced our cylinder-style jaw bucket with a PowerGrip and couldn’t be happier. Due to the enclosed actuator hinge

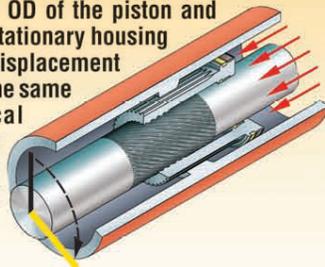
mechanism, we haven’t had to do anything with it, except complete the tasks on hand. PowerGrip has proved to be safer, more reliable and is extremely durable,” states Ryan.

An Innovative Operation Design Solution

The harsh conditions in and around the stream often wreak havoc on heavy equipment and attachments. PowerGrip is equipped with a durable, enclosed rotary actuator hinge that’s ideally suited for working in muddy, mucky conditions. With the rotary actuator hinge technology offering 120 degrees of jaw movement, there are no exposed cylinders and rods in the bucket shell or clam that can become polluted with debris, leading to attachment malfunctions. The rotating movement is generated by the massive rotating pivot point between the jaw and back of bucket that’s designed with Helac’s sliding spline operating technology, which converts linear piston motion into powerful shaft rotation. The end caps, seals

Operation Technology

PowerGrip uses Helac’s sliding spline technology for its operation. This technology is composed of a tubular housing that is integrated into the bucket shell and two moving parts: a central through shaft, which is attached to the jaw, and a doughnut-shaped piston. As hydraulic pressure is applied, the gears on the OD of the piston and ring gear of the stationary housing force the axial displacement of the piston. At the same time, the helical gearing on the shaft and piston ID cause the shaft to rotate and operate the jaw.



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— Bill Ryan,
Wisconsin DNR

and bearings work in unison to keep debris and contaminants out of the inner workings of the actuator, prolonging life and reducing required maintenance. High strength, abrasion resistant steel is used throughout for added durability. In over a



year, Wisconsin DNR hasn’t had to do any maintenance to PowerGrip, allowing them to get more work done in less time.

A Versatile Tool for Multiple Tasks

When dealing with the various obstacles inherent in restoring a

trout stream, sloping a ditch or building a retention pond, it is imperative to have an adaptable multi-purpose tool that can change jobs on the fly.

PowerGrip has been engineered with the flexibility to function as a trenching, grading or clamshell bucket and for gripping and loading. This inherent flexibility allows the Wisconsin DNR to keep PowerGrip on their machine 80 to 85 percent of the time, year-round. “PowerGrip’s versatility allows our operators to accomplish a wide variety of tasks without having to change machines or attachments, unless we decide to use a regular digging bucket on occasion. We purchased a second PowerGrip last year because of its versatility and minimal maintenance requirements,” states Ryan. When selecting the PowerGrip, the Wisconsin DNR went with the PG-08 product model that’s available for 20-ton machines. PowerGrip buckets are available in three sizes with bucket width ranges from 24 inches to 48 inches in the trenching profiles and 48 inches or 60 inches in ditching profiles.

For More Information

For more information about Helac Corporation's construction equipment attachments, call 800.797.8458. To access information using the World Wide Web, go to: www.helac.com

For more information about the Wisconsin Department of Natural Resources, visit their web site at: www.dnr.state.wi.us/



profitability, in the case of restoring a fragile trout stream ecosystem – it can prove to be the difference between survival and extinction.

Time is precious. Whether you are doing demolition work, road construction, pond building, site-preparation or restoring miles of trout stream; every second counts. Maximizing productivity can prove to be much more than an organizational objective towards



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